At the time of this analysis 17 pts (38%) are alive without evidence of disease. Updated and mature disease-free and overall survival results will be available by the time of the meeting.

Conclusions: This combined multimodality treatment strategy including a third generation chemotherapy regimen and accelerated RT is feasible. Toxicity is considerable but manageable. A clinical response was observed in two thirds of patients allowing to proceed with surgery for initially unresectable tumors.

Session C4: Chest Medicine
Wednesday, September 5

C4-01 **Chest Medicine, Wed, 10:30 - 12:15**

Thoracoscopic en-bloc pleural biopsy using an insulation-tipped diathermic knife for unexplained pleural effusion

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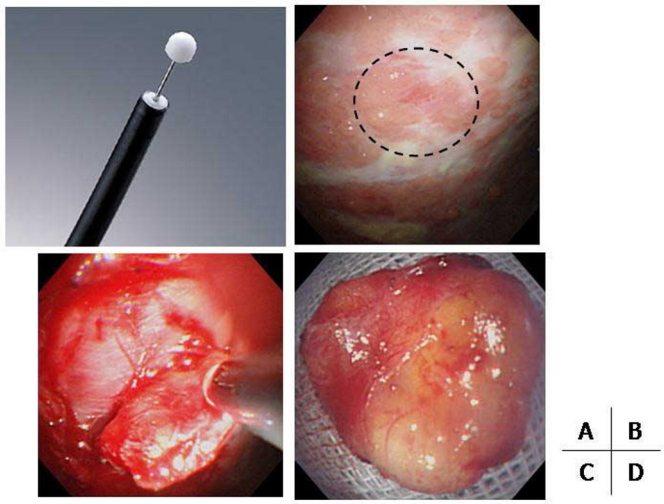
Background: Previous reports describe the separation of reactive mesothelial proliferations from malignant mesothelioma on small biopsy can be quite difficult. Medical thoracoscopy using a semiflexible thoracoscope has been performed for unexplained pleural effusion but because of small biopsies, occasionally fails to make a diagnosis. In 1996, some Japanese gastrointestinal endoscopists developed a special endoscope knife, called the insulation-tipped diathermic knife (IT knife, Olympus). This knife can incise gastric mucosa safely and remove a lesion completely. We deviced a novel thoracoscopic pleural biopsy technique using IT knife for the diagnosis of unexplained pleural effusion, and assessed the feasibility.

Patients and Methods: From January 2006 to January 2007, twenty patients with unexplained pleural effusion underwent diagnostic medical thoracoscopy. Nine of 20 patients that were difficult to grasp by using flexible forceps because of extensive reactive proliferation of the pleura were investigated. The patient was placed in the lateral decubitus position, and an 8-mm flexible trocar was inserted with the single puncture technique. Semiflexible thoracoscope (LTF-240, Olympus) was inserted through a flexible trocar, and the whole chest cavity was observed. After confirming the area of pleural lesion, a subpleural injection of saline containing lidokine and epinephrine was performed until the pleura were raised. After a pin hole was made, the tip of the IT knife was inserted into the hole. The pleura around the lesion were incised in a circle by manipulating the IT knife with the 40W ENDO-CUT.

Results: A definitive diagnosis was established in all patients. The mean time taken for the procedure and longest diameter of the specimen were 22.4±10.7 minutes and 15.3±10.8 mm, respectively. The following diseases were diagnosed: mesothelioma in three patients, malignant lymphoma in one, metastasis of breast cancer in one, lung adenocarcinoma in one, tuberculosis in one, and nonspecific inflammation in two. Three of the nine patients (desmoplastic mesothelioma, metastasis of breast cancer, nonspecific inflammation) were only diagnosed using this technique, and not by using flexible forceps. There were no severe complications during the procedure.

Conclusions: Thoracoscopic en-bloc pleural biopsy using the IT knife could be performed safely and adequately. This procedure may become an additional diagnostic modality for pleural effusion.



C4-02 **Chest Medicine, Wed, 10:30 - 12:15**

The role of airway stent placement in the management of tracheobronchial stenosis due to inoperable advanced lung cancer

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Background: There has been no in-depth report on the benefits of airway stenting focusing specifically on patients with inoperable advanced lung cancer with severe central airway obstruction. To address the benefit of airway stenting, we evaluated the role of stent placement as one aspect of the multidisciplinary approach to the management of advanced lung cancer.

Patients and Methods: Airway stenting was performed in 40 lung cancer patients, employing 58 stents. Adjuvant therapy (chemotherapy and/or radiotherapy) was not performed in 22 patients after stenting (group A), while the other 18 patients did receive adjuvant therapy (group B).

Results: Scores of performance status and Hugh-Jones classification improved in both groups after stenting: 3.56 to 2.48 (p=0.001) and 4.29 to 3.20 (p=0.004) in group A, 3.15 to 1.25 (p=<0.001) and 4.10 to 2.10 (p=<0.001) in group B. Improvement was dramatic in group B. Eight patients had hemoptysis after stenting, 7 in group A (31.8%) and 1 in group B (5.6%). Six of 8 patients (75.0%) received placement of multiple stents. Overall survival curves by Kaplan-Meier estimate after airway stenting for inoperable NSCLC are shown in Figure 1. Group A had a clearly poor outcome (median survival time: 1.6 months, 1-year survival: 5.1%) after stenting. Meanwhile, group B showed more encouraging results (MST: 5.6 months, 1-year survival: 25.0%). There was a significant difference in survival between the 2 groups (p=0.002).

Conclusions: Significant improvement of QOL and survival benefit by stent placement was particularly seen in treatment-naïve patients who could receive post-stenting adjuvant therapy. Patients not responding

to previous treatment may not reap the benefit of survival improvement because they were already in a terminal stage at the time of stent placement. Interventional pulmonologists should be aware of the discouraging prognosis and the risk of impediments for terminal patients, especially in cases of multiple stent placements.

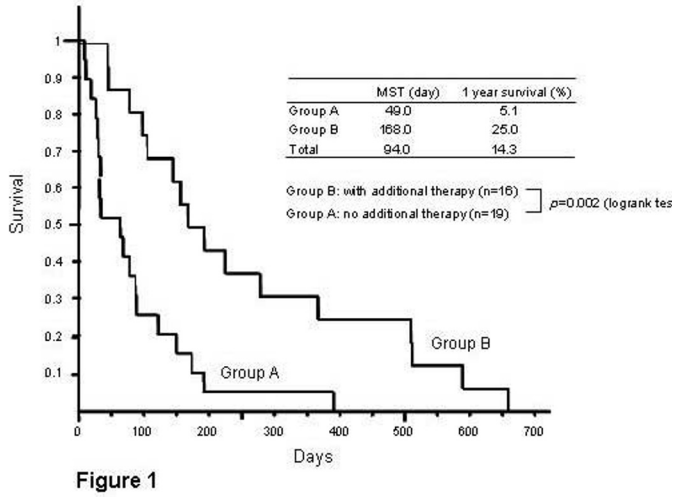

Figure 1

C4-03 Chest Medicine, Wed, 10:30 - 12:15

Early detection and intervention for central airway cancers: 10 year experience

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Background: Lung cancer accounts for more deaths than breast, prostate and colon cancers combined. Prognosis and survival depend on the stage of disease, and since more than two thirds of patients with lung cancer have mediastinal lymph node or distant metastases at presentation, it is not surprising that cure rate remains dismal at 15%.

Aim: To determine if early detection and intervention for central airway lung cancer could impact outcome of patients at risk.

Methods: All current or former smokers with ≥1 aerodigestive cancers were recruited for the program beginning January 1996 to December 2005 and prospectively followed till December 2006. Autofluorescence bronchoscopy was performed with LIFE® (Xilix, BC, Richmond Canada) every 3-6 months, and where indicated, bronchoscopic treatment was applied as an alternative to surgery or to enable less extensive resection whenever feasible. Values are presented as median and range, and lung cancer related mortality is calculated by Kaplan Meier method.

Results: There were 228 individuals, 190 males with median age 69 years (range, 62-75). They smoked 40 median pack years (range, 34-50), and 70% had COPD with median FEV1 % predicted 53% (range, 39-70). Follow-up was 40 months (range, 22-79), and the indications were: surveillance after lung cancer surgery in 94 patients (41%); previous ENT cancer in 32 (14%); suspected occult lung cancer in 92 (41%); and known lung cancer in 10 (4%). There were 111 patients with one lung cancer, and 99 with 2 or more lung cancers. A total of 217 new lung cancers were diagnosed: AF detected 181 and 36 by CT. Of the 92 patients with intraluminal squamous cell cancers (ISCC), 12 (13%) underwent surgery with one requiring post-operative radiotherapy (RT), 10 (11%) had RT alone and one (1%) received concurrent chemoradiotherapy. The remaining 69 patients (75%) had their multiple ISCC treated with endobronchial electrosurgery or cryotherapy. At the end of our study period, 123 individuals (54%) were alive, and 105 (46%) deceased. Lung cancer-related mortality (Fig 1) was 21% (6.3%/year) and the all cause mortality was 46%.

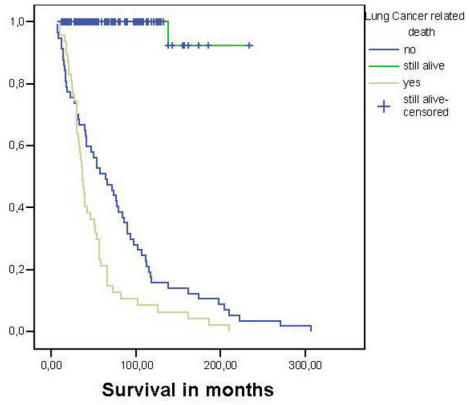

Figure 1: Lung cancer related mortality

Conclusions: Our results validate efforts towards early detection and intervention for this high risk group with ≥ 1 cancers. Bronchoscopic treatment could emerge as an effective alternative to surgery for early detected ISCC.

C4-04 Chest Medicine, Wed, 10:30 - 12:15

Discriminating value of three bronchoscopic techniques - autofluorescence bronchoscopy, autofluorescence spectroscopy and narrow band imaging

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Background: The bronchial mucosa is the tissue first exposed to different cancerogenes including tobacco smoke. Pathologic changes in the mucosa evolve from basal cell hyperplasia to epithelial dysplasia and cancer in situ. This process causes subtle changes in chemical composition and blood supply of mucosa and thickness of the basal membrane. This is why the processing of autofluorescent signal from the bronchial mucosal surface is gaining increasing interest recently. Significant weakness of commercial autofluorescence systems is low specificity caused by decreased fluorescence of the mucosa changed by chronic inflammation or other non-malignant endobronchial conditions.

Methods: In order to increase specificity of the auto fluorescent device we have tested system utilizing spectroscopic point monitoring of suspicious endobronchial locations. Every AFB positive location has been measured by this system and than visualized by NBI system. Evaluated group consisted of 30 patients with autofluorescence positive endobronchial locations.

Results and Conclusion: We have picked up some typical differences in autofluorescence spectra's between malignant and non-malignant tissues which are shown in graphs. We have also found that NBI tissue characteristics are very useful in discriminating between endobronchial

